

PROCEEDINGS  
OF THE  
CALIFORNIA ACADEMY OF SCIENCES  
FOURTH SERIES

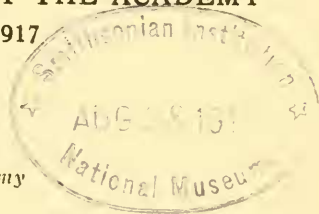
VOL. VII, Nos. 12 and 13, pp. 319-364, pls. 34-38 JUNE 15, 1918

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XII

REPORT OF THE PRESIDENT OF THE ACADEMY  
FOR THE YEAR 1917

BY  
C. E. GRUNSKY  
*President of the Academy*



During the year 1917 there has been an accession of 28 new members, and the Academy lost by death 10, by resignation 13, and by being dropped for arrearages in dues 28.

Early in the year came the last call to Mr. Theodore H. Hittell, whose long and earnest work for the Academy, and whose devotion to its interests, have been and are keenly appreciated by all who have been in close touch with Academy affairs. Later in the year Mr. Lyman Belding, well known for his work in ornithology, passed away and also Mr. Edward Bosqui—old and valued members—whose going depletes the ranks of the older generation and reminds us of the increasing responsibility that falls upon the younger generation and more recent members to carry forward, in a manner worthy of the established tradition, the work that has been so well begun by those who brought the Academy into being and shaped its early course. The full list of those called by death is as follows:

June 15, 1918

Altmann, William .....	Member .....	November 1, 1917
Belding, Lyman .....	Life Member.....	November 22, 1917
Bosqui, Edward .....	Life Member.....	December 8, 1917
Brown, Arthur .....	Life Member.....	March 7, 1917
Curry, David A. ....	Member.....	April 30, 1917
Hittell, Theodore H.....	Life Member.....	February 23, 1917
Matson, William .....	Member.....	October 11, 1917
Scofield, D. G. ....	Member.....	July 30, 1917
McDonald, Mark L. ....	Life Member.....	March 8, 1917
Von Hoffmann, Charles .....	Life Member .....	May 14, 1917
Steinhart, Ignatz .....	Patron.....	May 15, 1917

The Academy carries on its list of patrons the following names :

*Living*

Bourn, William B.	Grant, Joseph D.
Crocker, William H.	Hosmer, Mrs. Charlotte
Dunne, Peter F.	Macomber, A. Kingsley
Fleishhacker, Herbert	Morrison, Alexander F.

*Deceased*

Alvord, William	Lick, James
Crocker, Charles	Steinhart, Ignatz
Hendrie, John W.	

The present membership of the Academy is 460, made up of :

Patrons .....	6
Honorary Members .....	29
Life Members .....	79
Fellows .....	4
Members .....	342

During the year 1917, 10 free lectures have been delivered at the stated meetings of the Academy, as follows :

JANUARY 17.	"The structure and development of the molluscan shell." Dr. F. M. McFarland, Professor of Histology, Stanford University.
MARCH 21.	"The interdependence of field and laboratory investigation in biology." Dr. William E. Ritter, Director Scripps Institution for Biological Research.
APRIL 18.	"The English Sparrow." Dr. J. Rollin Slonaker, Professor of Physiology, Stanford University.
MAY 16.	"History of the sloth group in America." Dr. Chester Stock.
JUNE 20.	"Bird migration in California." Dr. H. C. Bryant, California Fish and Game Commission.
JULY 18.	"The Pyramid Lake and other bird rookeries." Dr. Barton Warren Evermann, Director of the Museum, California Academy of Sciences.

- SEPTEMBER 19. "Mechanism of the color changes in the Florida chameleon."  
Dr. Charles E. von Geldern.
- OCTOBER 17. "Climatic and geographic conditions of California during Tertiary time."  
Dr. B. L. Clark, Instructor, Department of Paleontology, University of California.
- NOVEMBER 21. "The work of the Fish and Game Commission."  
J. S. Hunter, Assistant Executive Officer California Fish and Game Commission.
- DECEMBER 19. "A collecting trip to Japan, China and Tibet."  
Edmund Heller, American Museum of Natural History.

Sunday afternoon lectures delivered in the Museum Building during the year 1917.

- JANUARY 14. "A total eclipse of the sun."  
Dr. R. G. Aitken, Astronomer, Lick Observatory.
- JANUARY 21. "The edible crabs and fishing methods on the Pacific Coast."  
Dr. Frank W. Weymouth, Assistant Professor of Physiology, Stanford University.
- JANUARY 28. "Alexander von Humboldt."  
Dr. James Perrin Smith, Professor of Paleontology, Stanford University.
- FEBRUARY 4. "Trees and shrubs of the Grand Cañon."  
Miss Alice Eastwood, Curator of Botany, California Academy of Sciences."
- FEBRUARY 11. "The Moon."  
Dr. R. G. Aitken, Astronomer, Lick Observatory.
- FEBRUARY 18. "The cruise of the Schooner 'Academy' 1905-1906."  
Mr. J. S. Hunter, Assistant Executive Officer, California Fish and Game Commission.
- FEBRUARY 25. "Insect control as a part of national forest protection."  
Mr. Ralph Hopping, U. S. Forest Service.
- MARCH 4. "Evolution of parental and social instincts."  
Dr. S. J. Holmes, Professor of Zoology, University of California.
- MARCH 11. "The Nebulae."  
Dr. H. D. Curtis, Astronomer, Lick Observatory.
- MARCH 18. "Liquid Air."  
Dr. E. C. Franklin, Professor of Chemistry, Stanford University.
- MARCH 25. "Habits of solitary wasps."  
Dr. Isabel McCracken, Assistant Professor of Entomology, Stanford University.
- APRIL 1. "Coffee and tea plantations in India and Ceylon."  
Dr. C. A. Kofoed, Professor of Zoology, University of California.
- APRIL 8. "How astronomical discoveries are made."  
Dr. H. D. Curtis, Astronomer, Lick Observatory.
- APRIL 15. "Man and the weather."  
Prof. Earle G. Linsley Head of the Department of Science, Mills College.

- APRIL 22. "Extinct life from Rancho la Brea."  
Dr. J. C. Merriam, Professor of Paleontology, University of California.
- APRIL 29. "The under-sea world."  
Mr. Zarb T. Pritchard.
- SEPTEMBER 23. "Social evolution and eugenic progress."  
Dr. S. J. Holmes, Professor of Zoology, University of California.
- SEPTEMBER 30. "A visit to Easter Island."  
Dr. C. A. Kofoid, Professor of Zoology, University of California.
- OCTOBER 7. "Birds of Pyramid Lake."  
Dr. Barton Warren Evermann, Director of the Museum, California Academy of Sciences.
- OCTOBER 14. "Pleistocene caves of California."  
Dr. Chester Stock, Department of Paleontology, University of California.
- OCTOBER 21. "Influence of climate and topography upon California's development."  
Dr. H. W. Fairbanks, Supervisor of Geography, Berkeley Schools.
- OCTOBER 28. "Hawaii Nei."  
Mr. Henry H. Hart, Assistant City Attorney, San Francisco.
- NOVEMBER 4. "The Chinese at home."  
Dr. Bailey Willis, Professor of Geology, Stanford University.
- NOVEMBER 11. "Natural history and manipulation of bees."  
Dr. G. A. Louderback, Professor of Geology, University of California.
- NOVEMBER 25. "Liquid Air."  
Mr. H. M. Elsey, Chemistry Department, Stanford University.
- DECEMBER 2. "Circulation of the blood."  
Dr. A. A. D'Ancona, Member of San Francisco Board of Education.
- DECEMBER 9. "Weeds."  
Miss Alice Eastwood, Curator, Department of Botany, California Academy of Sciences.
- DECEMBER 16. "The growth and transformation of insects."  
Prof. E. O. Essig, College of Agriculture, University of California.
- DECEMBER 23. "The distribution of plants in California."  
Dr. Douglas H. Campbell, Professor of Botany, Stanford University.

The Academy has published during 1917 the following papers in continuation of the Fourth Series of the Proceedings:

Vol. VI, No. 8, pp. 223-228

REPORT OF THE PRESIDENT OF THE ACADEMY FOR THE YEAR 1916  
by C. E. Grunsky.

Vol. VI, No. 9, pp. 229-294

REPORT OF THE DIRECTOR OF THE MUSEUM FOR THE YEAR 1916  
by Barton Warren Evermann.

- Vol. VII, No. 1, pp. 1-31  
 ARCHEOLOGICAL NOTES ON WESTERN WASHINGTON AND ADJACENT  
 BRITISH COLUMBIA  
 by Albert B. Reagan
- Vol. VII, No. 2, pp. 33-35  
 CONCERNING THE ORIGIN OF THE SOFT-SHELLED TURTLE, *Aspidoonectes*  
*californiana* Rivers  
 by John Van Denburgh.
- Vol. VII, No. 3, pp. 35-39  
 NOTES ON THE HERPETOLOGY OF GUAM, MARIANA ISLANDS  
 by John Van Denburgh.
- Vol. VII, No. 4, pp. 41-124  
 STRATIGRAPHIC AND FAUNAL RELATIONS OF THE MARTINEZ TO THE CHICO  
 AND TEJON OF SOUTHERN CALIFORNIA  
 by Clarence A. Waring.
- Vol. VII, No. 5, pp. 125-156  
 THE FAUNA OF A MEDIAL TERTIARY FORMATION AND THE ASSOCIATED  
 HORIZONS OF NORTHEASTERN MEXICO  
 by Roy E. Dickerson and William S. W. Kew
- Vol. VII, No. 6, pp. 157-192  
 CLIMATE AND ITS INFLUENCE UPON THE OLIGOCENE FAUNAS OF THE  
 PACIFIC COAST, WITH DESCRIPTIONS OF SOME NEW SPECIES FROM THE  
 MOLOPOPHORUS LINCOLNENSIS ZONE  
 by Roy E. Dickerson
- Vol. VII, No. 7, pp. 193-196  
 CLIMATIC ZONES OF MARTINEZ EOCENE TIME  
 by Roy E. Dickerson.
- Vol. VII, No. 8, pp. 197-205  
 ANCIENT PANAMA CANALS  
 by Roy E. Dickerson
- Vol. VII, No. 9, pp. 207-227  
 GEOLOGY OF A PORTION OF THE MCKITTRICK DISTRICT, A TYPICAL EX-  
 AMPLE OF THE WEST SIDE SAN JOAQUIN VALLEY OIL FIELDS, AND A  
 CORRELATION OF THE OIL SANDS OF THE WEST SIDE FIELDS  
 by G. C. Gester
- Vol. VII, No. 10, pp. 229-248  
 NOTES ON WEST AMERICAN CHITONS—I  
 by S. Stillman Berry.
- Vol. VII, No. 11, pp. 249-318  
 REPORT UPON A COLLECTION OF HEMIPTERA MADE BY WALTER M. GIFFARD  
 IN 1916 AND 1917, CHIEFLY IN CALIFORNIA  
 by Edward P. Van Duzee.
- Vol. II, Pt. 1, No. 11, pp. 375-382  
 PRELIMINARY DESCRIPTIONS OF NEW SPECIES OF PULMONATA OF THE  
 GALAPAGOS ISLANDS  
 by William Healey Dall.

#### THE STEINHART AQUARIUM

The most notable event in relation to the Academy in the past year, was the gift to the Academy by the late Ignatz Steinhart of \$250,000 for an Aquarium building. Mr. Steinhart had, for several years, cherished the desire to provide a public aquarium for the people of San Francisco.

During the last fifteen or twenty years various efforts had been made looking toward the establishment of a public aquarium in San Francisco. One of the first to give the matter serious consideration was Loyd Tevis, a public-spirited citizen of San Francisco. After giving much time and thought to the question and expending a considerable sum in making a study of the aquariums of the world, unforeseen difficulties developed which made it impracticable to carry out the purpose, much to Mr. Tevis's regret.

The next to take up the matter was Sigmund Steinhart, another philanthropic citizen of San Francisco. At his death in 1910 he left a certain sum of money with his brother, Ignatz Steinhart, with the request that it be used for aquarium purposes, if he found it feasible to do so. Mr. Ignatz Steinhart took up the matter at once and became deeply interested in it. His wish and hope was to provide the city of San Francisco and the people of the entire Pacific Coast with a modern, up-to-date public aquarium. Numerous and diverse difficulties and discouragements arose, however, and Mr. Steinhart had almost abandoned the hope of ever being able to realize the dream of his brother and himself.

Early in 1916 Dr. Evermann, Director of the Museum, had a number of conferences with Mr. Steinhart, with the result that Mr. Steinhart's interest revived. Finally he announced, at an aquarium luncheon at the Palace Hotel, September 21, 1916, that he would undertake to provide a building adequate in every way for an aquarium equal to any now existing if the city of San Francisco would make adequate provision for its maintenance. He also announced that he desired that the aquarium be located in Golden Gate Park and that its control and management be placed with the California Academy of Sciences.

Following this, a charter amendment was drawn and submitted to the electorate of the city and county of San Francisco at the election in November, 1916, which directs the supervisors to include in their annual budget an item of not less than \$20,000 for the maintenance of a public aquarium. This amendment carried by an overwhelming majority and Mr. Steinhart at once began considering plans and specifications. It was his earnest desire and hope to have the building completed and the aquarium in operation in his life time, but, to the

great regret of all, this was not to be. On April 27, 1917, he became ill, and died on May 15. When the will was made public it was found that Mr. Steinhart had made ample provision for a public aquarium, by bequeathing "to the California Academy of Sciences the sum of two hundred and fifty thousand dollars (\$250,000) for the erection and completion of an aquarium to be located in the Golden Gate Park of the city of San Francisco, and adjacent to or adjoining the new buildings and museum of said Academy of Sciences in said park, and subject to the following conditions:

1. Said aquarium to be called the Steinhart Aquarium, and a bronze bust of my brother Sigmund Steinhart, now deceased, but joint donor with me, to be erected and displayed in some convenient place in said Aquarium building.

2. The location, plans, and specifications, and also the appurtenances and installations therein, to be submitted to my executors and to be approved by same.

3. The final cost of said Aquarium not to exceed to my estate the sum of said \$250,000, to be certified to by the principal officials of said Academy of Sciences and the architect selected for the construction of said Aquarium.

4. The management, superintendence, and operation of said Aquarium to be in charge and under the direction of said Academy of Sciences; and I expect that the necessary funds for the maintenance and operation of said Aquarium will be furnished by the city of San Francisco for the benefit of the inhabitants thereof, or those who may enjoy said Aquarium and derive knowledge and information therefrom."

The Academy of Sciences, the executors, and the proper city officials of San Francisco are all deeply interested in seeing the Aquarium in full operation at an early date and are all working in perfect harmony toward the realization of that end.

The amount of money to be put into the building will provide an Aquarium building superior to any now in existence. The Aquarium will be for both fresh and salt water species, and there will be out-door pools for fur seals, sea lions, elephant seals, porpoises, and other aquatic mammals and reptiles.



The city of San Francisco is fortunate in having had as one of its distinguished citizens a man of vision as Ignatz Steinhart was; a man who had prospered in this world, and who, having prospered, wished to do something worth while for the city that had for so many years been his home. Men and women of wealth are coming more and more to realize that one of the very best and most satisfactory ways to dispose of wealth is to give it to scientific and educational institutions to aid in the increase of knowledge and its diffusion among men. Mr. Steinhart was such a man, and the name of Ignatz Steinhart will ever be held in grateful remembrance by the multitudes who will visit the Steinhart Aquarium every year and be entertained and instructed by the various forms of aquatic life it will contain.

THE WILLIAM M. FITZHUGH COLLECTION OF INDIAN BASKETRY  
AND POTTERY

This collection of Indian baskets, pottery, and stone implements was assembled by the late Professor and Mrs. T. S. G. Lowe and represents many years of diligent collecting and sustained interest on their part. When the collection came into the possession of Mr. Fitzhugh in 1914 he very kindly offered to install it in the new museum building of the California Academy of Sciences, then under construction. The offer was accepted and, upon the completion of the building, the installation was made.

The hall, 170 feet long by 15 feet wide, at the south of the Mammal Hall and facing on the open court, has been devoted entirely to this exhibit. The collection is so large, consisting of more than 15,000 different objects, as to preclude the possibility of installing it in its entirety; but by eliminating duplicates and the articles of least ethnologic or educational interest, space was found for practically all the really important specimens. The installation of the collection was done under the immediate direction of the late William Altmann, and was made primarily with reference to artistic effect. Mr. Altmann's keen artistic sense together with his knowledge of Indian basketry and wide experience in arranging collections of this kind enabled him to do this work most satisfactorily and the hall now makes a very attractive appearance. A tribal or cere-



monial classification would have considerable educational advantage and would probably not detract materially from the artistic effect.

The Basket Hall has proved a great attraction to specialists and to the general public.

When the number of visitors at the Museum is large, the Basket Hall is usually crowded, and at all times it attracts its share of interest. Many visitors are observed to tarry long, studying the objects critically. Teachers in the public schools frequently bring their classes to the Museum and make use of these exhibits in their school work.

Some idea can be gotten of the character of these exhibits from the photographs reproduced in this report.

#### NOTABLE ACCESSIONS TO THE MUSEUM AND LIBRARY

The accessions to the Museum and to the Library during the year have been many and valuable. Only a few of the more notable ones will be mentioned here.

In the Department of Botany large and valuable collections of herbarium specimens have been received as donations from Doctors Charlotte and Fred Baker of San Diego, Mrs. A. L. Coombes of San Francisco, Miss Sophie Fauntleroy of Santa Barbara, Mrs. Elizabeth Parsons Hawver of San Francisco, Dr. Harold Heath of Stanford University, Mrs. G. Earle Kelly of Alameda, Mrs. Ernest Meiere of San Francisco, Mr. Justin P. Moore, Mrs. Zelia Nuttall, Mr. G. P. Rixford of San Francisco, Mr. L. E. Smith of Sisson, Cal., Dr. E. C. Van Dyke of Berkeley, Miss Ethel Wickes of San Francisco, and Mrs. Elizabeth Wright of Calistoga.

In addition to these there have been received either by exchange, purchase, or exploration, many large and important collections.

The Department of Entomology has received a number of unusually large and important donations, chiefly from Dr. F. E. Blaisdell of San Francisco, Mr. B. Preston Clark of Boston, Dr. Frank C. Clark of Los Angeles, Dr. W. M. Crowfoot of Suffolk, England, Mr. Frank Daggett of Los Angeles, Mr. C. A. Hill of Los Angeles, Mr. W. M. Giffard of Honolulu, Mr. J. August Kutsche of Eldridge, Cal., Mr. E. J. Newcomer

of Palo Alto, and Mr. F. X. Williams of Honolulu. These collections total many thousand specimens.

The Department of Ornithology also has received a number of important gifts of specimens of birds and birds' eggs, the most valuable being a collection of 748 birds' eggs from Mrs. C. A. Treuholtz of Oakland, another of 215 eggs from Mr. Wm. H. Evermann of Burlington, Indiana, another of 103 eggs and 36 bird skins from Messrs. J. & J. W. Mailliard of San Francisco. And, through the kindly interest of Mr. L. J. Phelps, U. S. Customs Examiner, San Francisco, the Academy has received 25 packages of egrettes, bird skins, and feathers seized by the Customs office.

The Department of Mammalogy has received a number of notable gifts, the most important being: Five specimens of the Stone or Black Sheep (*Ovis stonci*). These were presented to the Academy by Mr. H. O. Harrison of San Francisco who obtained them in British Columbia. They are excellent material for a fine habitat group. The Academy is also indebted to the U. S. Bureau of Fisheries for 14 fur seals from the Pribilof Islands. Although these are seals found dead on the rookeries they are nevertheless suitable material for a habitat group.

Through the courtesy of Mr. C. J. Albrecht of the Museum of the University of Washington the Academy has received five excellent specimens of the Roosevelt elk. And Mr. Leslie Simson of Oakland has generously donated to the Academy the following skins and skulls of Alaska mammals: three caribou, 3 Dall's sheep, 2 mountain goats and 1 moose.

The most notable donations to the library have been the following: From Mr. L. E. Smith of Sisson, Cal., 164 books and pamphlets; from the U. S. Department of Agriculture, through Dr. Walter H. Evans of the Office of Experiment Stations, 266 volumes and reports of that office; from Mr. F. X. Williams of Honolulu, 649 scientific books, pamphlets and periodicals.

To all of these donors who have so generously contributed to the Museum's collections and library grateful acknowledgment is made.

## HONORARY MEMBERS AND FELLOWS

Under authority of the Constitution the Academy at the last annual meeting (February 21, 1917) elected to Honorary membership three of the most distinguished scientific men in America, namely: Dr. John A. Brashear of Pittsburgh, Pa., Dr. Robert S. Woodward, President of the Carnegie Institution of Washington, and Dr. Frederic A. Lucas, Director of the American Museum of Natural History.

Section 4 of Article II of the Constitution provides for a class of members to be known as Fellows. Any person trained in the methods of science and engaged in scientific work who has been a Member of the Academy one year or more may, upon recommendation of the Council, be eligible for election by letter-ballot as a Fellow of the Academy. Early in the year the Academy availed itself of this privilege and the following distinguished members were elected Fellows:

Dr. John C. Branner, President Emeritus of Stanford University.

Dr. W. W. Campbell, Director of the Lick Observatory.

Dr. David Starr Jordan, Chancellor Emeritus of Stanford University.

Dr. Wm. E. Ritter, Director of the Scripps Institution for Biological Research.

I am sure I voice the feeling of all when I say that the Academy is proud to begin its roster of Fellows with the names of these distinguished men of science. And it is equally proud to number among its Honorary members the three distinguished men who were elected to that class.

Despite the disturbed conditions throughout the world, the Academy has during the past year continued to make progress.

While the Academy is far from being in position to do all that should be done in the matter of collecting and housing material of scientific interest from land and sea, for study and display, it has nevertheless done what it could with the means at its command and makes grateful acknowledgment of the fact that its work has been facilitated and the interest of the public stimulated by many donations, among the most notable of which are a contribution of \$3500.00 by Mr. Herbert Fleishhacker credited to his mother, Mrs. Delia Fleishhacker,

which was devoted to the installation of the San Joaquin Valley Water-Fowl group, recently opened to the view of the public, and the contribution of \$3,000, which will be increased to \$3,500, by Mr. A. K. Macomber, which is being used in the installation of a White Pelican group. More specific reference to these and other donations which the Academy has received during the year will be found in the report of the Director of the Museum.

The activities of the Academy along scientific lines will appear from the reports of the Director of the Museum and of the curators of the several departments into which the Academy's work is divided. These reports show that there has been no lack of earnest co-operation and there has been always an earnest endeavor to do all that could be done with the means and within the time available.

I again acknowledge with pleasure the valuable service that is being rendered by those who with the facilities provided by the Academy are engaged in contributing to the fund of human knowledge and wish to thank them for their devotion to the work. May they and the Academy continue to merit and obtain the approbation of the public and let us hope for a growing material support.

The Academy will soon have outgrown the facilities which have been provided in the first unit of its building, but it has no means at present in sight with which to make extensions. It is carrying as large a debt as seems wise—some \$319,000.00. Its annual interest obligation amounts to about \$16,300.00. There is some satisfaction, however, in being able to note that the indebtedness has been reduced during the year by \$10,000, as will appear more fully in the financial statement of the Treasurer.

I speak for your officers when I say that the cordial support that has come to them from the membership and from the public in their endeavor to fulfil their responsibilities is thoroughly appreciated.